

Harford County Astronomical Society

Bel Air, Maryland
www.harfordastro.org



Volume 31 Issue 9

September 2005

"We have next to speak of the stars, as they are called, of their composition, shape and movement!"

Aristotle (384-322 BC)
De caelo
("On the Heavens", Book II, Chapter 7)

General Meeting: Saturday, September 17, 2005 7:30pm (19:30)
Public Star Party (Open House), September 10, 2005 at dusk

Club Calendar for 2005

Meeting night

October 15, 2005
November 19, 2005
December 17, 2005

Open House/Public Star party

October 8, 2005
November 12, 2005
December 10, 2005

Meeting time is 19:30 (7:30pm) unless noted otherwise. Dates and times are taken from the HCAS website.
<http://www.harfordastro.org>

Check the HCAS website for other club events.

Minutes of the HCAS Meeting of Saturday, September 17th, 2005

Notes:

1. Secretary Irv was not present, so President Monroe Harden took the minutes.
2. The Torre family (Jim and his sons James and Timothy) attended the meeting as guests. They listened to the business portion of the meeting and then took a tour of the observatory.

President Monroe Harden opened the meeting at 7:35 PM

1. **Previous meeting's minutes:** The minutes of the August meeting, as published in the newsletter, were approved without comment.
2. **Treasurer's report:** The treasurer was not present, and no report was passed to anyone else to discuss tonight.

Treasurer's Report (since the meeting date): \$3,349.35 currently in the treasury.

3. **Observatory Operations-** A detailed discussion of the dome motorization proposal was deferred until later in the meeting.
4. **Outreach activities:**
 - a. A number of members, including Mark, Joe with his new, award winning scope, Phil, Grace, Steve, Carol, and Fran, participated in the open house on 10 September. Many members of the public attended. The public portion of the event ran until about 11 PM, and club members stayed longer to examine Joe's new telescope.
 - b. Swan Fest takes place on October 9th at Swan Harbor in Havre de Grace. Monroe said he would participate with his PST solar telescope. We need at least one more member to man the club's table.
 - c. Mark reported that his contact at Broad Creek for the scouts, Ray Wise, never called him back regarding possible outreach activities with the scouts.
 - d. HCC Astronomy class observing sessions start on Monday, September 19th, and continue on Monday nights through the semester. The club needs to support these sessions, which run from 9:30 PM until 10:00 PM.

Old business:

1. Jeremy was to investigate ordering "wheelie bars" for the club's SCT in order to make it more portable for use during public events. He was not available to provide an update on whether he had passed the ordering information to the treasurer.

New business:

1. Grace said that the club was written up in the Aegis about 4 years ago. She said she would contact them about meeting with us again in the near future. She also said she would contact the Harford County cable station.
2. The club set up several telescopes for the public during the last good Mars apparition in 2003. We discussed possibly doing this again around the last weekend of October. The group agreed to poll the membership about possible participation before publicly announcing any dates.

3. Dome motorization project.

Mark led a discussion of the current proposal to motorize the observatory dome. He and Roger Bennet went to the Science Center in Baltimore, along with Phil Schmitz, to see how their dome was motorized. They use a simple, but elegant design, with a spring-loaded rubber tire powered by an electrical motor providing traction to rotate the dome. This appears to be a good method to use for motorizing our dome.

The first step in doing this is to survey the state of the existing ring to see how round it is and how much modification would be needed to make it round enough to support this method. Roger has access to machining facilities at his work, and Mark has a welding machine, so much, if not all of the labor, can be done by club members. The only required purchases should be hardware, such as the base metal for the new ring (covering the old one) and casters to support the dome.

Roger showed some photos he took of the Science Center's dome operation and a video of it actually in use.

The club agreed to continue the investigation and design effort, and once a cost estimate is available, we will vote on the expenditure of funds before continuing.

President Harden adjourned the meeting at 8:12 PM

Astronomical League Club Achievements by HCAS Members

Coordinator: Bill Geertsen izar@juno.com)

*******This list needs to be updated*******

!!!Send your info to the coordinator!!!

Telescope Messier Club

Steve Krall	110(5/99)	Doris Reese	12
Woody Lower	110(5/90)	Ernie Davis	60
Ernie Webb	110(6/91)	Wayne French	2
Larry Hubble	110(5/91)	Lucy Albert	46
Bill Geertsen	110(6/98)	Leo Hepner	68
Richard Hagenston	110(2/90)	Warren Hoover	77
Phil Schmitz	#1650 110(3/99)		

Binocular Messier Club

Stu Chapman	19	Bruce Wrinkle	79
Cathy Tingler	57	Phil Schmitz	#442(1/01)
Frank Varisco	3		

Double Star Club

Bill Geertsen	#79(4/99)	Andrew Williams	100(6/2000)
Phil Schmitz	#74(3/99)		

Urban Club

Bill Geertsen	100(4/99)	Phil Schmitz	#21(2/01)
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Herschel-400 Club

Bill Geertsen	#267(1/03)	Phil Schmitz	#236(10/01)
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Deep Sky Bino Club

Phil Schmitz	#120(3/01)		
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Lunar Club

Phil Schmitz	#258(1/01)		
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Caldwell Club

Phil Schmitz	#8(12/01)		
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*****Phil Schmitz is currently working toward completion of four other certificates and is about to begin an additional four more AL observing programs!*****

<<<If you have looked at the Orion Nebula you have a start on the Messier list. Send in your observations!>>>

September Messier Objects
Between RA 18h 30m and 21h 00m

M69	RA 18-31	Dec -32-21	Size 10'	Mag 7.7	Globular cluster
NGC 6637		SA2K #22			
Small, round, easily found glow in Sagittarius. About 24,000 LY distant.					
M25	RA 18-32	Dec -19-15	Size 32'	Mag 4.6	Open cluster
IC 4275		SA2K #15, 16, 22			
About 30 stars, detached concentrated OC in Sagittarius. Located in the Milky Way star field. About 1,900 LY distant.					
M22	RA 18-36	Dec -23-54	Size 33'	Mag 5.1	Globular cluster
NGC 6656		SA2K #22			
Large and beautiful GC in Sagittarius. Rivals M13, M3, M5 and M93 as one of the best.					
M70	RA 18-43	Dec -32-18	Size 7'	Mag 8.1	Globular cluster
NGC 6681		SA2K # 22			
Small round, unresolved glow in Sagittarius, About 65,000 LY distant.					
M26	RA 18-45	Dec -09-24	Size 15'	Mag 8	Open cluster
NGC 6694		SA2K #15, 16			
25 stars, dim, not impressive, OC in Scutum. About 4,900 LY distant.					
M11	RA 18-51	Dec -06-16	Size 14'	Mag 5.8	Open cluster
NGC 6705		SA2K #15, 16.			
The "Wild Duck" cluster in Scutum. One of the best OC's, compact, fan shaped, more than 200 stars, rivals M37 in Auriga. About 5,500 LY distant.					
M57	RA 18-54	Dec +33-02	Size 76"	Mag 8.8	Planetary nebula
NGC 6720		SA2K #8			
The "Ring Nebula" in Lyra. Classic planetary nebula. O-III filter works very well. About 1,500 LY distant.					
M54	RA 18-56	Dec -30-32	Size 6'	Mag 7.7	Globular cluster
NGC 6715		SA2K #8			
Highly concentrated, large, round, resolved at high magnification. About 49,000 LY distant.					
M56	RA 19-16.6	Dec +30-11	Size 7'	Mag 8.2	Globular cluster
NGC 6779		SA2K #8			
Round glow in Lyra, elusive, can be resolved at high magnification. Half way between Gamma Lyrae and Albireo. About 46,000LY distant.					
M55	RA 19-40	Dec -30-58	Size 19'	Mag 7	Globular cluster
NGC 6809		SA2K #22, 23			
Low surface brightness, elusive globular in Sagittarius. About 20,000LY distant.					
M71	RA 19-53.8	Dec +18-47	Size 7'	Mag 8.3	Globular cluster
NGC 6838		SA2K #8, 16			
Round glow in Sagitta. Globular cluster, also resembles a dense open cluster. About 13,000LY distant.					
M27	RA 19-59.6	Dec +22-43	Size 8'x4'	Mag 7.3	Planetary nebula
NGC 6853		SA2K #8,9			
The "Dumbbell Nebula" in Vulpecula. Shaped like an hourglass, responds well to an O-III filter.					
M75	RA 20-06.1	Dec -21-55	Size 7'	Mag 8.6	Globular cluster
NGC 6864		SA2K #22, 23			
Small oval with bright center in Sagittarius. The most remote Messier Globular cluster, between 80,000 and 100,000LY distant.					
M29	RA 20-23.9	Dec +38-32	Size 7'	Mag 6.6	Open cluster
NGC 6913		SA2K #8, 9			
Nice, rectangular open cluster in Cygnus. About 4,000 LY distant.					
M72	RA 20-53.5	Dec -12-32	Size 6'	Mag 9.4	Globular Cluster
NGC 6981		SA2K # 16			
Small globular cluster in Aquarius. Low concentration, round. Can be resolved in a 4" scope. About 62,000LY distant.					
M73	RA 20-59	Dec 12-38	Size 1.1'	Mag 9.3	Open cluster
NGC 6994		SA2K #16			
Triangula, fourth star off to the side in Aquarius. A candidate for the worst Messier object. Questionable open cluster.					

There are mail restrictions (number of pages) on the snail-mail version. To get the most out of your Astro Views, you are encouraged to subscribe to the e-mail version. This is easily done by contacting Steve Channel at srccac2@comcast.net and adding your e-mail address to his mailing list.

This issue contains a detailed listing of objects in Draco (which are visible in scopes of 10" or smaller aperture. Many are listed in the AL observing programs. Using the list will get you started on the AL observing-certificate programs.).

Astro Views is the official publication of the Harford County Astronomical Society, P.O. Box 906, Bel Air, MD 21014. For the year 2005 any items for publication in any issue are due to the editor by the 15th of the preceding month. Please send all contributions (electronic format is STRONGLY encouraged) to Bill Geertsen at (EMAIL):izar@juno.com, regular mail at: 36 Northwood Drive, Timonium, MD 21093. Permission is not necessary for non-profit use of this material, although proper acknowledgement is required. Address changes should be brought to the attention of the editor at the address given above.

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**HARFORD COUNTY ASTRONOMICAL SOCIETY
P.O. BOX 906
Bel Air, MD 21014**

**FIRST CLASS
Address Correction Requested**

Constellation: Draco, "The Dragon"

α Draconis "Thuban"

August

Obj	DB#	Type	RA	Dec	Pairs	Sep	PA	Mag	Size	Description
NGC 3147	*	SG	10h 16.9m	+73d 24m	*	*	*	10.7	*	Round, bright nucleus
H-79-1	*									*
NGC 3329	*	SG	10h 44.7m	+76d 49m	*	*	*	12.2	*	Challenge, in a group of 12 galaxies
NGC 4125	*	SG	12h 08m	+65d 11m	*	*	*	9.8	*	Elongated
RV Dra	ST462	RV	12h 56m	+66d 00m	*	*	*	6.8->7.3	*	Red variable, ruddy carbon star
OL123	ST472	TriP	13h 27.1m	+64d 44m	AB	69s	147d	6.7/?	*	Very nice pair
					BC	36s	94d		*	*
M-102	*	SG	15h 06.5m	+55d 46m	*	*	*	10.8	2.8mx1.0m	Elongated, bright center
NGC 5866	*				*	*	*		*	*
H-215-1	*				*	*	*		*	*
Σ1918	*	DS	15h 07.8m	+63d 07m	AB	17.9s	21d	6.8/10.8	*	*
NGC 5907	*	SG	15h 15.9m	+56d 19m	*	*	*	11.3	11mx0.7m	Needle like, faint, near Iota Dra
H-759-2	*				*	*	*		*	Use AV
*	*				*	*	*		*	"Splinter Galaxy", edge on, Long, thin streak, challenge
1 Dra	ST540	*	15h 24m	+59d 08m	*	*	*		*	Ed Asich
NGC 5982	*	SG	15h 38.7m	+59d 21m	*	*	*	10.9	1.2mx0.8m	Elongated, small, elusive
H-764-2	*				*	*	*		*	*
Σ1984	*	DS	15h 51.2m	+52d 54m	AB	6.5s	273d	6.6/8.9	*	*
*	*				AC	17.1s	98d	/12.8	*	*
η Dra	*	DS	16h 23.3m	+61d 38m	AB	5.3s	143d	2.7/8.0	*	*
R Dra	ST579	V	16h 32.7m	+66d 48m	*	*	*	6.7	*	Variable

Constellation: Draco, "The Dragon"

α Draconis "Thuban"

August

Obj	DB#	Type	RA	Dec	Pair	Sec	PA	Mag	Size	Description
16-17 Dra	ST380	Mult	16h 36.2m	+52d 55m	AB	3s	108d	5.4/6.4	*	Yellow/white
Σ2078	*	DSC			*	*	*	*	*	Binoocular object
Σ1-30	*	*	*	*	AC	90s	194d	/5.5	*	*
*	*	*	*	*	BC	90s	195d	?/	*	*
*	*	*	*	*	CD	120s	122d	/11.1	*	*
μ Dra	ST394	DS	17h 05.3m	+54d 28m	AB	2s	42d	5.7/5.7	*	Miniature Castor, matched pair
Σ2130	*	DSC			*	*	*	*	*	(0)
Σ2155	*	DS	17h 16m	+60d 40m	AB	9.9s	114d	6.8/10.1	*	*
ν Dra	ST611	DS	17h 32m	+55d 11m	AB	62s	312d	4.9/4.9	*	Easy, bright, matched pair
*	*	DSC			*	*	*	*	*	Binoocular object (0)
Σ2218	*	DS	17h 40.3m	+63d 41m	AB	1.8s	327d	7.1/8.8	*	*
ψ Dra	ST615	DS	17h 41.9m	+72d 09m	AB	30s	15d	4.9/6.1	*	Yellow/iliac
Σ2241	*	DSC			*	*	*	*	*	(0)
NGC 6503	*	SG	17h 49m 30s	+70d 09m	*	*	*	10.2	7.1mx2.4m	Dwarf spiral galaxy
γ Dra	ST625	Mult	17h 56.6m	+51d 29m	AB	20.9s	157d	2.2/13.2	*	"Etamin"
β 633	*	*	*	*	AC	45s	230d	/12.7	*	*
*	*	*	*	*	AD	57.6s	12d	/12.7	*	*
NGC 6543	PN	PN	17h 58m 36s	+66d 38m	*	*	*	8.8	22s	"Cat's Eye Nebula"/"Snail Nebula"
H-37-4	*	*	*	*	*	*	*	*	*	Blue-green, bright
*	*	*	*	*	*	*	*	*	*	*
40-41 Dra	ST628	Triple	18h 00m	+80d 00m	AB	19s	232d	5.7/6.1	*	Yellow
*	*	DSC			AC	222s	128d	/7.5	*	(0)
46 Dra	*	DS	18h 00m	+55d 32m	AB	147s	130d	5.0/10.6	*	*
*	*	*	*	*	AC	334s	341d	/	*	*

Constellation: Draco, "The Dragon"

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August

Obj	DB#	Type	RA	Dec	Pairs	Sp	PA	Mag	Size	Description
Σ2271	*	DS	18h 00.3m	+52d 51m	AB	3.1s	268d	8.1/9.1	*	*
*	*	*	*	*	AC	167.2s	18d	/12.4	*	*
39 Dra	ST640	Triple	18h 23.9m	+58d 48m	AB	4s	351d	5.0/8.0	*	Yell/white
Σ2323	*	*	*	*	AC	89s	21d	7.4	*	*
*	*	*	*	*	AE	198s	66d	/	*	*
Σ2348	ST649	DS	18h 33.9m	+52d 18m	AB	26s	272d	6.0/8.8	*	*
Kemble 2	*	Ast	18h 35m	+72d 23m	*	*	*	5.6	30s	Asterism, warm colored stars
Σ2398	ST656	DS	18h 43m	+59d 36m	AB	13s	8/	8/	*	*
o Dra	ST665	DS	18h 51.2m	+59d 23m	AB	35s	326d	4.8/7.8	*	*
Σ2420	*	*	*	*	*	*	*	*	*	*
† Dra	ST685	*	19h 15.5m	+73d 18m	*	*	*	4.5	*	*
UX Dra	ST689	RV	19h 21m 36s	+76d 34m	*	*	*	5.9>7.1	*	Red variable, carbon star
Σ2573	*	DS	19h 40.2m	+60d 30m	AB	18.2	27d	6.2/9.5	*	*
ε Dra	ST707	DS	19h 48.2m	+70d 16m	AB	3s	15d	3.8/7.4	*	Yellow/white
Σ2603	*	*	*	*	*	*	*	*	*	*

Named Stars

β Dra	Rastaban; Alward; "The Dragon's Head"
γ Dra	Etamin; Etamin; also "The Dragon's Head"
ν ₂ Dra	Kausa
ξ Dra	Cruminum; Gesam; "The Dragon's Underjaw"
δ Dra	Nodus Secundus; "The Goat"
σ Dra	Alsafi; Athafi; the tripod of an Arabian open-air kitchen
ε Dra	Tyl
ψ ₁ Dra	Dziban; Dziban
ζ Dra	Alhibah; Eldalb
ι Dra	Ed Atch; Eldick
α Dra	Thuban; Adib; Arabic title for the whole of Draco; Azdeha; from ancient Persian
λ Dra	Glanfar; Glansar; "The Central One"
μ Dra	Arrakis; "The Dancer"; "The Late Player"; "Dune" fans take note.
θ Dra	Al Dhili; "The Wolf"